

REMARKS

Claims 1-3 and 5-10, 12-22, 24-28, 30-34, 36 and 37 are pending. Claims 4, 11, 23, 29 and 35 have been canceled. Claims 1, 2, 6, 8, 9, 13, 15, 16, 21, 22, 25, 27, 28, 31, 33 and 34 have been amended. No new matter has been presented.

Claims 1, 2, 8, 9, 15, 16, 21, 27 and 33 are objected to for lacking proper antecedent basis. Claims 1, 2, 8, 9, 15, 16, 21, 27 and 33 have been amended, and withdrawal of this objection is respectfully requested.

Claims 1, 3, 5, 8, 10, 12, 15, 17 and 19 are rejected under 35 USC 102(b) as being anticipated by Hough, U.S. Patent No. 6,312,072. This rejection is respectfully traversed.

Claim 1 recites “a judgment unit for judging whether a service life of a loaded developing agent cartridge has expired by accessing a memory unit of said developing agent cartridge.” Applicants submit that Hough fails to teach or suggest this feature.

Hough teaches keeping track of the amount of ink in the cartridge by estimating an amount of ink used during operation and subtracting that amount from the initial predetermined amount. This is done by the print head controller (col. 7, lines 10-18). However, Hough does not disclose a memory unit in the developing agent cartridge which stores information relating to the service life of the cartridge. Since the claimed invention determines the remaining life of the cartridge by accessing information stored in the memory of the cartridge, and Hough discloses that this information is obtained by the print head controller, Hough cannot teach or suggest the features of claim 1.

Independent claims 8 and 15 also recite a memory unit in the developing agent cartridge which stores information related to the remaining service life of the cartridge. Since Hough fails to teach or suggest this feature, claims 8 and 15 are allowable for the same reasons claim 1 is allowable.

Claims 3, 5, 10, 12, 17 and 19 are allowable at least due to their respective dependencies.

In light of the foregoing, applicants request that this rejection be withdrawn.

Claims 1, 4, 6, 7, 8, 11, 13, 14, 15, 18 and 20 are rejected under 35 USC 102(b) as being anticipated by Sakuma, U.S. Patent No. 5,530,461. This rejection is respectfully traversed.

Independent claims 1, 6, 8, 13 and 15 all recite determining the remaining life of the cartridge by accessing information stored in the memory of the cartridge. Sakuma fails to teach or suggest this feature.

Sakuma teaches a cleaning operation of an ink ejecting device every predetermined number of characters printed or when the power is turned on (abstract). The number of cleaning times is tracked, and when the number of cleaning times equals a preset number, the user is informed that the head needs to be replaced (abstract). Thus, a judgment of whether the service life of the loaded developing agent cartridge has expired is not made by accessing a memory unit of said developing agent cartridge in the device of Sakuma. Thus, Sakuma fails to teach or suggest the features of claims 1, 6, 8, 13 and 15.

Claims 4, 7, 11, 14, 18 and 20 are allowable at least due to their respective dependencies. Applicants request that this rejection be withdrawn.

Claims 21, 22, 24, 27, 28, 30, 33, 34 and 36 are rejected under 35 USC 102(e) as being anticipated by Phillips, U.S. Patent No. 6,817,693. This rejection is respectfully traversed.

Claim 21 has been amended to incorporate the features of claim 23. Claim 27 has been amended to incorporate the limitations from claim 29. Claim 33 has been amended to incorporate the feature of claim 35.

The Examiner rejected claims 23, 29 and 35 under 35 USC 103(a) based on a combination of Phillips and Sakuma.

The Examiner asserts that Sakuma discloses, at col. 6, lines 55-62, the claimed feature (from original claim 23) of “wherein said safety mode is to execute a printing process with an increased cleaning frequency, an increased calibration frequency or an increased communication frequency with a control center compared to those of a standard mode.” The Examiner asserts that it would have been obvious to modify Phillips in view of Sakuma to introduce a safety mode in which a printing process with an increased cleaning frequency is executed. The Examiner states that one would have been motivated to modify Phillips by executing an increased cleaning frequency instead of displaying a warning or shutting down for the benefit of extending the life of the cartridge while minimizing the decrease in printing quality which would normally occur until the print head is replaced.

Philips discloses judging whether the toner cartridge is suitable for the particular printer, and if it is not, either issues a warning or shuts down. Sakuma teaches increasing the cleaning frequency if the print head needs replacing. A combination of the Phillips and Sakuma would result in a device that shuts down the printer or warns the user that the printer cannot print (due to an unsuitable cartridge) and then increases the cleaning frequency if the toner cartridge is not suitable for the printer. This is not what is claimed in claims 21, 27 and 35.

The invention of claim 21, for example, judges whether the toner cartridge is an authorized product and increases, for example, the cleaning frequency *without stopping* the printing process if the toner cartridge is found to be an unauthorized product. Phillips stops the printing process to either shut down or warn the user. Merely modifying Phillips to clean the cartridge more often does not change this fact.

In other words, the claimed invention allows the printing process to continue even if it has found an unauthorized product. Moreover, the claimed invention increases the cleaning frequency, the calibration frequency, and the frequency of communication with the control center in order to avoid troubles such as printer failures when the printing process is continued. Thus, the combination of Phillips and Sakuma fails to teach or suggest the feature of claims 21, 27 and 35.

The remaining claims are allowable at least due to their respective dependencies. Applicants request that this rejection be withdrawn.

Claims 2, 9 and 16 are rejected under 35 USC 103(a) as being unpatentable over Hough in view of Haines, U.S. Patent No. 6,808,255. This rejection is respectfully traversed.

These claims are allowable at least due to their respective dependencies and further in view of the fact that Haines fails to overcome the deficiencies of Hough. Applicants request that this rejection be withdrawn.

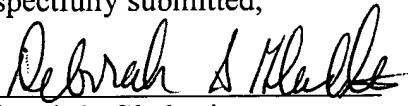
Claims 23, 25, 26, 29, 31, 32, 35 and 37 are rejected under 35 USC 103(a) as being unpatentable over Phillips in view of Sakuma. This rejection is respectfully traversed.

These claims are allowable at least due to their respective dependencies. Applicants request that this rejection be withdrawn.

In the event the U.S. Patent and Trademark Office determines that an extension and/or other relief is required, applicants petition for any required relief including extensions of time and authorize the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 325772034100.

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